



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/633,832

08/04/2003

Tianyu Xie

P/16-338

5274

2352

7590

08/05/2005

OSTROLENK FABER GERB & SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 100368403

EXAMINER

HANNAHER, CONSTANTINE

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

88

Office Action Summary

Application No.

10/633,832

Applicant(s)

XIE ET AL.

Examiner

Constantine Hannaher

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 15-19 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 7, 13, 14, 20 and 26-29 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

This application is claiming the benefit of a prior filed nonprovisional application under 35 U.S.C. 120, 121, or 365(c). Copendency between the current application and the prior application is required.

Applicant is to provide proof of copendency, MPEP § 1896. Note that the international application was published on November 14, 2002.

2. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in the Japanese receiving office on May 2, 2002. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on May 9, 2001. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

4. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on April 17, 2002. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

5. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on May 2, 2002. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

6. Applicant is not consistent regarding under what basis the claim to priority to the international application is made. See the application data sheet of August 4, 2003 and the declaration submitted December 15, 2003 and the response of December 15, 2003.

Information Disclosure Statement

7. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Oath/Declaration

8. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

A reference to an international application is not acceptable as an identification of the specification in a domestic application filed under 35 U.S.C. 111(a), MPEP § 1896.

Drawings

9. The drawings are objected to because in Fig. 3 because "Switches 46a connected to the push pins 46c therefore remain off" is not shown as required by page 29. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

10. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant’s cooperation is requested in correcting any errors of which applicant may become aware in the specification.

11. The disclosure is objected to because of the following informalities: page 93, it is not clear on what basis “floppy disk” is identified as a registered trademark.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 5, 22, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "said storage means" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claim 2 does not establish a storage means.

Claim 22 recites the limitation "the data designated for said gain control means" in line 2. There is insufficient antecedent basis for this limitation in the claim. The designation of data is established by claim 21 not claim 10.

Claim 25 recites the limitation "said amount of return light" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 1, 4, 10, and 21 do not establish any such amount.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claim 3 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Merchant *et al.* (US005807247A).

With respect to independent claim 3, Merchant *et al.* discloses an optical probe 502 (Fig. 5) for propagating light which emanates from a light source 506, 508 to an object (tissue sample, column 1, lines 17-19) and receiving return light from the object (to detector 514) comprising a memory means 520 in which characteristics of the probe is recorded so that the characteristics of the probe can be read out (column 7, lines 48-58). The probe 502 of Merchant *et al.* is also attached

to a device main body **510** in a way which is fairly characterized as freely detachable (column 1, lines 7-10).

16. Claim 3 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Abe *et al.* (US006903761B1).

With respect to independent claim 3, Abe *et al.* discloses an optical probe **10** (Fig. 1) for propagating light which emanates from a light source (column 2, lines 41-42) to an object and receiving return light from the object (to detector **14**) comprising a memory means **16** in which characteristics of the probe is recorded so that the characteristics of the probe can be read out (column 2, lines 56-63). The probe **10** of Abe *et al.* is also attached to a device main body **12** in a way which is fairly characterized as freely detachable (column 1, lines 15-25).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 1, 4, 6, 12/6, 8, 15-19, 9, 12/4, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa *et al.* (US006069698A)¹ in view of Abe *et al.* (US006903761B1)².

With respect to independent claim 1, Ozawa *et al.* discloses an optical imaging system (Fig. 9) of the recited type comprising a replaceable optical probe 8 (Fig. 4) for propagating the light which emanates from light source 2 to an object 11 and receiving return light from the object, a device main body including a light receiving means 12 and having the optical probe 8 freely detachably attached thereto (in view of multiple probes which may be coupled to joint 6), and designating means 25 for designating the conditions for controlling an optical probe (column 4, lines 43-47). Although the system of Ozawa *et al.* does not include any detecting means of the characteristics of the optical probe 8 so as to, for example, set the position of stage 18 subsequent to an exchange of probes, Abe *et al.* shows (Fig. 1) that in a replaceable (column 1, lines 15-25) optical probe 10 for propagating light from a "light-source unit" (column 2, lines 41-42) to an object and receiving return light from the object which is freely detachably attached to a device main body 12, the presence of a detecting means 18 for detecting the characteristics of an optical probe attached to the main body (by readout of the contents of element 16, column 2, lines 47-55) and designating means for designating the conditions for controlling an optical probe (column 2, lines 56-63) is known. In view of the requirement in the system of Ozawa *et al.* to designate conditions of control of the probe (by adjustment of the stage 18 and control of the rotary joint by element 13) on the basis of which probe is attached, and the automatic designations in the system of Abe *et al.* by cooperation between the device main body 12 and the optical probe 10, it would have been obvious to one of ordinary skill in

¹ This reference is available to the Examiner under 35 U.S.C. 102(a) since the patent date of May, 2000 is prior to the earliest priority date (May, 2001) available to the applicant. Family member JP 11-148897 A would be available to the Examiner under 35 U.S.C. 102(b) on the basis of its June, 1999 publication date.

the art at the time the invention was made to modify the optical imaging system of Ozawa *et al.* to further comprise a detecting means of the type suggested by Abe *et al.* such that the designating means 25 designated according to the characteristics of the optical probe 8 detected by the detecting means.

With respect to dependent claim 4, the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* further comprises at least one scanning means 6, a signal generating means 13, a storage means 16, an optical system 8, a memory means (column 5, lines 31-37), an image signal producing means 21, and a control means (25 in Ozawa *et al.* and 18 in Abe *et al.*).

With respect to dependent claim 6, the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* includes scanning means 48, storage means 16, and at least part 10 of the optical system in the optical probe 8 which is freely detachably attached to at least one of the recited means (in the device main body).

With respect to dependent claim 12/6, in view of the rotatory driving unit 13 in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* the information stored in the storage means 16 would include at least one of the recited items.

With respect to dependent claim 8, in view of the rotatory driving unit 13 in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* the control means would designate data as recited.

With respect to dependent claims 15-18, it would not have taken more than ordinary skill in the art at the time the invention was made to identify known elements of the type of signal transmitted from signal generating means 13 to scanning means 6.

² This reference is available to the Examiner under 35 U.S.C. 102(e) and there is no common inventor and no common assignee. Family member JP 2001-8199 A would be available to the Examiner under 35 U.S.C. 102(a) on the basis of its January, 2001 publication date.

With respect to dependent claim 19, in view of the video synchronization circuit 28 in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* the control means would designate data as recited.

With respect to dependent claim 9, in view of the variety of probes 8 of suitable performance available in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* the choice of frequency for driving the scanning means 6 is one within the ordinary skill in the art at the time the invention was made.

With respect to dependent claim 12/4, in view of the rotatory driving unit 13 in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* the information stored in the storage means 16 would include at least one of the recited items.

With respect to independent claim 2, in view of the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* (see the explanation in the rejection of claim 1) it would have been obvious to one of ordinary skill in the art at the time the invention was made that an optical imaging detection method of the recited type was suggested in view of the optical imaging system already referred to and the designation of conditions for controlling an optical probe (as found in Merchant *et al.*) based on the characteristics of the optical probe as detected by detecting means (as found in Abe *et al.*).

With respect to dependent claim 5, to the extent understood, the optical imaging detection method suggested by Ozawa *et al.* and Abe *et al.* would have the recited steps in view of the reading by microcomputer 18 of data from storage means 16 in Abe *et al.*, the calculating of conditions described (column 2, lines 55-63) by Abe *et al.*, the designating described (column 4, lines 43-47) by Ozawa *et al.*, the controlling and driving inherent in the rotatory driving unit 13, galvanometer

controller 20, and position control unit 21 of Ozawa *et al.*, and the displaying-processing in display 26 of Ozawa *et al.* and signal processing 21 of Abe *et al.*

20. Claims 10, 21, 25, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa *et al.* (US006069698A) and Abe *et al.* (US006903761B1) as applied to claim 4 above, and further in view of Takahashi *et al.* (JP 62-6593 A).

With respect to dependent claim 10, the presence of a gain control means for controlling the sensitivity of a light receiving means to received light hardly needs any citation. Nevertheless, Takahashi *et al.* discloses such a gain control means 40 (Fig. 3) for a CCD 24 in an optical probe 10. In view of the improved performance in optical imaging under gain control, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* to further comprise a gain control means.

With respect to dependent claim 21, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control means in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* and Takahashi *et al.* designate data for the gain control means according to information stored in the storage means to the extent that the different optical probes 8 created different ranges of signal intensity.

With respect to dependent claim 25, as best understood, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine an amount of return light in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* and Takahashi *et al.* with any relevant factors contributing to that amount.

With respect to dependent claim 22, as best understood, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control means in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* and Takahashi *et al.* designate data for

the gain control means according to information stored in the storage means on the basis that a specific optical probe 8 creates a different range of signal intensity.

With respect to dependent claim 23, the gain control means 40 suggested by Takahashi *et al.* includes a gain calculator for calculating a correction value according to the amount of return light (in accordance with the detecting signal).

21. Claims 11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa *et al.* (US006069698A) and Abe *et al.* (US006903761B1) as applied to claim 4 above, and further in view of Yamashita *et al.* (JP 1-270842 A).

With respect to dependent claim 11, the presence of a filter adjusting means for adjusting the frequency band of an electric signal from a solid state image pick-up element in an optical imaging system is known, as shown by Yamashita *et al.* In view of the ability to maintain a high observing effect even when the configuration of the endoscope changes as described by Yamashita *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical imaging system suggested by Ozawa *et al.* (US006069698A) and Abe *et al.* (US006903761B1) to further comprise a filter adjusting means such that an electric signal transmitted from photodetector 12 to the memory means in computer 25 had its frequency band adjusted to maintain optimum processing.

With respect to dependent claim 24, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control means in the optical imaging system suggested by Ozawa *et al.* and Abe *et al.* and Yamashita *et al.* designate data for the filter adjusting means according to information stored in the storage means to the extent that the different optical probes 8 created different bands of frequency in the photodetector 12.

Response to Submission(s)

22. This application has been published as WO 02/089661A1 on November 14, 2002 and again as JP 2003-28791 A on January 29, 2003 and again as EP 1360927A1 on November 12, 2003 and again as US 2004/0085543A1 on May 6, 2004.

Allowable Subject Matter

23. Claims 13, 7, 14, 20, 26-28, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter: these particular limitations, in combination with an optical imaging system as recited, are not suggested.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Uchiyama *et al.* (US 20040181148A1) is not available to the Examiner but shows probe identification storage 45.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2878

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ch


Constantine Hannaher
Primary Examiner